

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-015740**Date Inspected:** 19-Jul-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Bonifacio Daquinag and Steven McConnell			<b>CWI Present:</b>	<b>Yes</b>	<b>No</b>	
<b>Inspected CWI report:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Rod Oven in Use:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Electrode to specification:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Weld Procedures Followed:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Qualified Welders:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Verified Joint Fit-up:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Approved Drawings:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>Approved WPS:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
				<b>Delayed / Cancelled:</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder		

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG L5E/L6E side plate 'C' (3110mm to 7478mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 perform CJP groove (splice) welding root then fill pass on the splice butt joint. The welder was observed performing automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042B-1. The joint being welded had a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System located at the opposite side of the plate prior/during welding. ABF Quality Control (QC) Bonifacio Daquinag was noted monitoring the welding parameters of the welder. At the end of the shift, fill pass welding was still continuing and should be the same for tomorrow.

At OBG L2W/L3W bottom plate 'D' outside, ABF QC Steven Mc Connell was observed performing Magnetic Particle Testing (MT) on the flush ground cover reinforcement of the splice butt joint. The QC was noted using a Parker Contour yoke with red magnetic powder as detecting media. During the MT on the cover reinforcement, QC Steven Mc Connell has found no significant indications.

QAI also noted ABF welding personnel Rory Hogan and Jeremy Dolman perform grinding of the gouged backing bar removal at OBG L3W/L4W bottom plate 'D' using alternately the 6" diameter disc grinder and the barrel bit

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## WELDING INSPECTION REPORT

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die grinder. The gouged backing bar removal was previously gouged using the track mounted plasma arc machine. Also at OBG L2W/L3W bottom plate 'D' outside, the flush grinding on the cover reinforcement was seen completed. It is now awaiting visual test (VT) to be followed by Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) from the QC if the VT is acceptable.



### Summary of Conversations:

At OBG L5W/L6W top deck plate 'A' outside, ABF personnel were observed flush grinding the weld cover reinforcement of the splice butt joint using the 3" wide belt grinding (abrasive) machine. It was noted during the grinding process that the cut of the belt grinding machine was across the direction of the bridge which was in contrary to the Special Provisions requirement that said "The direction of final grinding marks shall be parallel to the axis of the tower or bridge". This was brought to the attention of ABF QC Jesse Cayabyab who assured QA that the use of the belt machine will be followed by 7" diameter abrasive flapper disc that will run parallel to the bridge.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 227-5298, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito	Quality Assurance Inspector
<b>Reviewed By:</b>	Levell, Bill	QA Reviewer

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